The Role of CSOs in Climate Action Through Informal Climate Change Learning in Ghana

Anna Saakwor Batsa
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For more information, write to:
West Africa Civil Society Institute (WACSI)
P.O. Box AT1956 Achimota
Accra, Ghana

Email: info@wacsi.org
Tel: (+233) 303937264

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<th>Full Form</th>
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<tr>
<td>AFCCSD</td>
<td>Africa Foundation for Climate Change and Sustainable Development</td>
</tr>
<tr>
<td>COP</td>
<td>Conference of Parties</td>
</tr>
<tr>
<td>CSO</td>
<td>Civil Society Organisation</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>ESD</td>
<td>Education for Sustainable Development</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>IPCC</td>
<td>Inter-governmental Panel on Climate Change</td>
</tr>
<tr>
<td>MESTI</td>
<td>Ministry of Environment Science Technology and Innovation</td>
</tr>
<tr>
<td>MoFA</td>
<td>Ministry of Food and Agriculture</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non-governmental Organisations</td>
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<tr>
<td>SDGs</td>
<td>Sustainable Development Goals</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organisation</td>
</tr>
<tr>
<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
</tr>
<tr>
<td>350 G-ROC</td>
<td>350 Ghana Reducing Our Carbon</td>
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</tbody>
</table>
The role of CSOs in climate action through informal climate change learning in Ghana

Executive Summary

Climate change is real, and the impacts are all around us. Reports from the Inter-governmental Panel on Climate Change (IPCC) reveal the current changes in climate as a result of human activities. Climate change therefore affects everyone but developing countries including Ghana will face a greater burden of climate change as a result of existing challenges including poverty, health, sanitation among others. All stakeholders including the state and non-state actors have a role to play towards achieving ambitious climate change targets. Civil Society Organisations (CSOs) continue to play a key role in promoting climate action and empowering vulnerable communities on how to adapt and build resilience against climate change. However, the role of CSOs in climate action has received less attention and documented especially in Ghana. This study aims to address this gap by examining the role of CSOs in promoting climate change learning through informal methods. It specifically identifies climate change informal learning platforms used by CSOs to promote climate change learning in communities, how these methods used by CSOs increase people’s knowledge on climate change, climate change adaptation and mitigation, promotes eco-friendly practices and the challenges CSOs face using these methods.

The study draws on qualitative research design involving desk research, semi-structured interviews and case studies. The study specifically focused on two CSOs (350 G-ROC and Africa Foundation for Climate Change and Sustainable Development) who are engaged in informal climate change education in some selected communities in Ghana. In addition, Officials from state institutions such as EPA, MESTI and MoFA were also interviewed as key informants to provide further information on the role of CSOs in climate change learning. People who have benefitted from informal climate change learning initiatives from 350 G-ROC and Africa Foundation for Climate Change and Sustainable Development were also interviewed. They included basic school children, farmers and a teacher.

The research findings reveal a significantly high level of knowledge on climate change by respondents. The majority of respondents defined climate change as a long-term change in climatic conditions such as temperature, with visible effects on food production, floods, and unpredictable rains, among other things. From the study, the most common informal climate change learning led by CSOs occurs on media platforms such as radio, social media, outdoor events and fun fairs and the use of videos during programmes. Findings from the study reveal that CSOs choose these methods based on the characteristics of their target population such as

Photo by Jcomp via Freepik
engaging in practical organic compost preparation with farmers and fun fairs and outdoor events for school children. The study revealed how these methods have contributed to respondents’ increased knowledge on the causes, impacts and solutions to address climate change. Findings from the study reveal how advocacy campaigns from Africa Foundation for Climate Change and Sustainable Development help farmers to understand the climatic changes they have observed over a period of time.

Through such initiatives, interviewed farmers indicated that they are able to adapt to the impacts of climate change through using early maturing crops. Similarly, responses from key informants confirm the knowledge some communities have on climate change from CSOs interactions at the community level. Nonetheless, the study identified gaps in the knowledge of respondents, especially in identifying climate risks and taking personal climate change initiatives. This is as a result of the occasional nature of activities organised by CSOs, mainly due to inadequate funds and over reliance on donors. The study also highlights other challenges CSOs face in their informal climate change learning activities such as difficulty in changing human behaviour, mismanagement of funds among others.

Respondents perceived that CSOs continuous interaction with communities will go a long way to increase their ability to take personal initiatives and CSOs accountability regarding the funds they receive will increase their legitimacy and help them get more support for their programmes and initiatives.

The study recommends that CSOs collaborate and form alliances with other organisations in the sector to make use of limited funds, CSOs should learn more about alternative sources of funding from workshops organized by WACSI and other institutions and State agencies working within the area of climate change such as the Environmental Protection Agency (EPA) among others should closely work with CSOs and incorporate their activities as part of the country’s effort towards climate change.
1.0 Background of Study
1.1 Introduction

According to Drah (1993), Tsikata et al. (2013), Civil Society Organisations (CSOs) are a cluster of intermediary organisations/associations that operate between the primary units of society (like individuals, nuclear and extended families, clans, ethnic groups, and village units) and the state. They include community-based organisations, Non-governmental Organisations (NGOs), farmers’ movements; trades unions; religious organisations; professional associations; advocacy groups and think tanks among others (Atuguba 2015, Tsikata et al. 2013).

CSOs usually have a primary focus on gender, child rights, disability rights, trade, democracy promotion, the environment and poverty reduction, in rural water supply, basic education, environmental protection, primary healthcare, family reproductive healthcare and HIV/AIDS support (Tsikata et al. 2013). In Africa, the effect of political and ethnic conflicts, the rise in oil prices and deterioration of trade and its associated challenges including high rate of unemployment, poverty and increased debts placed huge economic burden on governments, local communities and individuals leading to an increase in support from CSOs and international organisations (Tsikata et al. 2013).

In Ghana, civil societies have played a pivotal role in development since the colonial period/era in many areas or fields, ranging from health and education to livelihood sustainability (ibid.). Besides, CSOs play a great role in environmental sustainability by addressing climate change, energy, waste management, pollution, biodiversity and land use. NGOs usually collaborate with the government, corporations and community members to protect natural resources and create awareness on pollution and important environmental issues (Sandhu and Arora 2012). As a matter of fact, NGOs role in global environmental politics have been characterised as agitators for environmental action, architects of governance solutions, and entrepreneurs for new sorts of initiatives (O’Neill 2015).

Similarly, Betsill (2015) describes NGOs involved in climate change governance as activists raising awareness and calling for action; as diplomats working with governments to craft climate policies; and as governors developing new mechanisms for steering society towards a low-carbon future.
1.2 Problem Statement

CSOs have been described as shapers of information and ideas, brokers of knowledge, norms and initiatives, and doers of implementing policies and influencing behaviours (Nasiritousi, 2016). The role of CSOs in global environmental governance cannot be overemphasised. A consensus has emerged, in both climate governance regimes and in the scientific literature, that climate change adaptation should involve multiple actors from the public and private sectors and from across civil society (IPCC 2014). Besides, this broader participation by non-state actors also has the potential to enhance the democratic legitimacy of environmental governance (Bäckstrand, 2006).

Also, CSOs collaborate with communities and state agencies and this has contributed to the increased awareness on climate change and change of attitudes. Studies by Kieu and Singer, (2017) identified NGOs as crucial educators in non-formal Education for Sustainable Development (ESD). Moreover, the significance of the relevance of formal environmental education in the acquisition of skills, knowledge and change of attitude has been widely studied (Elmassah et al., 2020, Molderez & Fonseca, 2018). Nonetheless, few studies have been conducted on the role of informal learning in addressing issues related to environmental sustainability. Moreover, the disproportionate impact of climate change especially on the poor and vulnerable in the society is growing steadily (UNFCCC, 2018). This highlights the need to pay attention to all forms of sustainability education that prepares communities to understand complex issues and to participate in social and ecological regeneration (Burns, 2013).

The benefits of informal lifelong learning are insufficiently represented in literature (Latchem, 2014). This study therefore seeks to address this gap by assessing the role of CSOs in informal lifelong learning in climate change adaptation.

1.3 Objectives

- To identify and document informal climate change learning platforms in Ghana.
- To assess the contribution of CSOs to informal climate change learning
- To assess how informal climate change learning platforms increase knowledge on climate change adaptation and mitigation.

1.4 Research Questions

- What informal climate change learning platforms exist in Ghana?
- How do CSOs contribute to informal climate change learning?
- How have informal climate change learning platforms increased knowledge on climate change adaptation and mitigation?
Literature Review: Contextual Information
2.1 Climate Change Definition and Impacts

Climate change is one of the most pressing issues confronting the world today. Climate change according to an IPCC report in 2007, is any change in climate over time whether due to natural variability or as a result of human activity (Parry et al., 2007). The United Nations Framework Convention on Climate Change (UNFCCC) defined climate change as change that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparative years (Parry et al., 2007). Climate change is largely a product of the intense increase of greenhouse gas emissions since the industrialisation period (Poutianien et al., 2013).

Greenhouse gases including carbon dioxide, methane, and nitrous oxide concentrations in the atmosphere have increased as a result of human activity since 1750, and now far exceed pre-industrial levels (Parry et al., 2007). Carbon dioxide is the most important anthropogenic greenhouse gas. Since the early twentieth century, anthropogenic sources of carbon dioxide have primarily been driven by human activities, primarily fossil fuel combustion (e.g., burning coal, oil, and natural gas), but also agricultural emissions and deforestation (Heshmati, 2021).

According to Beninston, (2010), many of the factors causing global change are the result of over-exploitation of resources in the developed world and unsustainable economic policies. In his study, he associated high population growth in less developed countries with environmental degradation as a result of local residents attempt to maintain or improve their resource base and economic level by over-exploiting their environment. Moreover, the increase in heat-trapping greenhouse gases in the atmosphere raises the mean surface temperature of the earth, resulting in a series of effects for the physical environment and living organisms worldwide (Heshmati, 2021). Climate change causes water and food insecurity, increased mortality, and population...
movement, all of which have a disproportionate impact on the most vulnerable populations, such as children, the elderly, indigenous peoples, and the poor (ibid.). Sea-level rise is one of the more global and significant impacts of climate change on societies and economies. It is caused by the combined effects of thermal expansion of water and the additional influx of fresh water to the oceans from melting mountain glaciers and ice sheet, therefore making the large proportion of the world’s population living on or near the seashore, at risk (Beninston, 2010). Moreover, all the changes in the physical planet earth’s environment affect the life of plants, animals, and humans, coral reefs, forests, and coastal human communities. Furthermore, significant changes in climate conditions will affect demand, supply, and water quality, particularly in arid and semi-arid regions; any shortfalls in water supply will increase competition for water use for a wide range of economic, social, and environmental uses (Beninston, 2010). Nonetheless, climate change may have health benefits in some regions. For example, warmer winters may reduce the number of temperature-related health events and death (Hajat, 2017).

2.2 Climate Change in Ghana

Ghana is extremely vulnerable to climate variability and change, which continues to endanger future growth and development. Findings by the World Bank shows evidence of rise in temperature and increase in hot days, high degree of inter annual and inter decadal rainfall variability and rising sea levels which negatively impacts infrastructure, hydropower production, food security and coastal and agricultural livelihoods (World Bank, 2010a). Also, carbon dioxide emissions have increased over time due to an increase in the rate of conversion of forest and grassland, an increase in fuel consumption for thermal electricity production, and an increase in fuel consumption for transportation. As a result of these, climate change is expected to have a severe impact on Ghana. According to World Bank projections, the trend for temperature from 2010 to 2050 indicates warming in all regions of Ghana, with the highest temperatures in the Northern, Upper East, and Upper West regions (World Bank, 2010b).

Furthermore, assessment conducted by Adshead et al., (2022) revealed that flooding in Ghana is expected to increase due to changes in the frequency and intensity of heavy rainfall, as well as changes in soil saturation. According to their study, different Intergovernmental Panel on Climate Change (IPCC) climate models from 2000 to 2050, including the recent IPCC report project very similar levels of around 20 cm of sea level rise in Ghana. This is however a great threat to the growing coastal communities and to the country as a whole. Based on this, several efforts have been put in place by government and the private sector including CSOs to build a more sustainable and resilient society.

2.3 Climate Change Adaptation and Mitigation

Mitigation and adaptation of climate change are the two different strategies for addressing climate change. Mitigation is an intervention to reduce the emissions sources or enhance the sinks of greenhouse gases (Locatelli et al., 2011). Adaptation on the other hand is an adjustment in the natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities (Smit & Pilifosova, 2003). According to Locatelli et al. (2011), climate change adaptation and mitigation differ by objectives and scales including spatial, time and sector scales. For objectives,
2.4 Role of CSOs in Climate Change

Many actors have contributed to reducing the impact of climate change. The involvement of multiple actors in reducing climate change risks establishes climate change governance, which is the process of developing and implementing policies, regulations, and development priorities that are aligned with the goals of sustainable development (Broto & Westman, 2020). There are two major types of actors leading discussions and promoting climate action and they are state actors and non-state actors. State actors constitute government organisations and institutions both central and local and non-state actors including the business sector, international institutions, and civil or non-governmental organisations who are not affiliated with the government (Samnuzulsari et al., 2021). Both actors have equal responsibility of reducing and mitigating climate change impacts.

A growing body of literature asserts the critical role of non-state actors in mitigating the effects of climate change with the main functions of CSOs as monitoring and advocacy of public policies and community empowerment (Samnuzulsari et al., 2021). Civil society, through its functions, ensures that development
undertaken by the government is capable of anticipating climate change and includes climate change adaptation and mitigation initiatives (ibid.). Several studies have shown the significant role of CSOs in climate change campaigns. For example, Poutiainen et al., (2013) investigated adaptation strategies used by Canada’s CSO to reduce the impact of climate change in the health sector. Other studies cover efforts carried out by environmental CSOs in Canada to keep water and air quality, intervene in the ecosystem, and help vulnerable groups as well as provide climate change adaptation planning in Vanuatu (Samnuzulsari et al, 2021). In effect, civil society and social movements, activists, and organisations can work together to put pressure on policymakers to address climate change. In recent years, the climate change movement has emerged as a loosely knit network of individuals, groups, and organisations formed by environmentalists, development experts, anti-capitalists, and indigenous movements (Poutianien, 2013). Their objective is to reduce the negative impacts of climate change on people and the planet. Nonetheless, Baumgartner et al., (2009), asserts that civil society actors are increasingly attempting to persuade states to align policy outputs and outcomes with their own preferences. Similarly, Böhmelt, (2013) defined civil society as all actors or groups in global governance who pursue their own interests but do not belong to or are affiliated with official governmental entities. However, in the context of environmental politics, civil society organisation’s role in climate change has been particularly lobbying within the United Nations Framework Convention on Climate Change (UNFCCC) Betsill & Corell, (2008) and CSOs membership in state’s delegation at the Conference of Parties (COPs) have increased between 1995-2013 (Böhmelt, 2013). Also, CSOs work in climate action seek to involve the community, and sometimes outsiders, often students, in programmes that seek to empower communities to take control and manage their environment: (Hanemann, 2015). Studies by Yakubu et al., (2019), highlights the contribution of CSOs particularly international NGOs in climate change adaptation for smallholder farmers in the Norther region of Ghana. However, not many studies have focused on the contribution of local CSOs contribution to climate change learning and action.

### 2.5 CSOs and Climate Change Learning

Climate change and sustainable development such as pollution, consumption, natural resource scarcity, poverty, discrimination, safe water, food, and shelter are issues that everyone in their local community must deal with on a daily basis: (Hanemmann & Robinson, 2022). This is because everyone is affected by these
issues, either directly or indirectly, as the cause, the victim, or both at times. Moreover, the United Nations deliberately recognises the integral role of lifelong learning in ensuring sustainable development (UN 2015). Lifelong learning is therefore viewed as critical for the attainment of many SDGs, including gender equality (SDG 5); decent work and economic growth (SDG 8); health and well-being (SDG 3); responsible consumption and production (SDG 12); and climate change mitigation (SDG 13). Based on this, several CSOs have played critical roles in bringing everyone on board, particularly the most vulnerable groups including the politically, socially, economically and culturally marginalised people (Hanemann & Robinson, 2022).

They are the ones who suffer the most as a result of these issues, which frequently result in their further marginalisation and also the least resilient to the major conflicts and crises (Hanemann & Robinson, 2022). CSOs usually reach out to vulnerable communities through community-based and participatory approaches. According to Hanemann, (2015), community-based approach is important because local community empowerment provides the foundation for sustainable development learning which enables local people to take direct and practical action to tackle the problems that they face in this changing and globalising world. It also helps them to gain new knowledge and skills to improve their lives in a sustainable way, such as being eco-friendly, farming and fishing skills, understanding diverse values, beliefs and customs, and addressing social and economic inequalities. The study asserts that community learning empowers local people to make decisions that can lead to transformative actions by developing greater shared ownership of their community’s future and proactively contributing to local and global issues. Furthermore, institutions that facilitate community-based learning, such as CSOs, provide people with a space to talk about their concerns, raise people’s awareness, motivate them to respond and establish ownership of their responses, and support them in sharing their hopes for a more sustainable society (National Research Council, 2009).

They also serve as a bridge between formal, non-formal, and informal education, and provide inclusive and flexible education to empower socially marginalised peoples. More so, awareness of the power of informal environmental understanding that CSOs impart to communities is now recognised by UNESCO as one of the two key sectors of environmental education (Hanemann, 2015). Informal learning methods include online platforms, afterschool programs, citizen science engagements, through broadcast media, print media, adult education, visits to parks, museums and recreational areas, in the activities of hobbyist and advocacy groups, among others (National Research Council, 2009). Informal learning experiences are frequently created “bottom-up” through front-end and formative evaluation to meet the needs of a specific audience in a particular context with specific learning objectives (Steiner, 2016).

Moreover, the idea of learning that cuts across all aspects of life has been called life-long, life-wide, and life-deep learning (Reischmann, 2014). The National Research Council, (2009) defines lifelong learning as the acquisition of fundamental competencies and attitudes, as well as the ability to use information effectively throughout one’s life, while acknowledging that developmental needs and
interests differ at various stages of life. UNESCO has broadly defined lifelong learning as the “integration of learning and living, covering learning activities for people of all ages” in all life contexts (e.g., home, school, workplace, community), through formal, non-formal, and informal modalities, “which together meet a wide range of learning needs and demands (UIL, 2014).” Life-wide learning is defined by the National Research Council, (2009) as learning that occurs as people routinely circulate across a variety of social settings and activities including classrooms, informal educational institutions, homes, and other community locales—and deep wide learning as beliefs, ideologies, and values associated with living and participating in the culture working communities and society at large.
3.0 Research Methodology
This section of the report explains the procedures and processes that were followed in choosing the sample, collecting and analysing the data. It covers mainly the processes involved in data collection and analysis of data.

### 3.1 Research Design

The study made use of the qualitative approach, particularly case study method. Case studies help to conduct in-depth examinations of people or groups of people. The case study design is appropriate for small-scale studies based on a particular workplace or a comparison of a small number of organisations (Rowley, 2002). The case study method was used to examine the role of two CSOs; 350 G-ROC and AFCCSD in climate change adaptation and mitigation using informal learning approaches. According to Freitas et al., (2017), case studies give the researcher intensive knowledge of a phenomenon as it allows the researcher to be immersed into the context of the study.

### 3.2 Population and Sampling Method

All CSOs contributing or working within climate change and environmental management served as the primary population for the study. However, CSOs that employs informal methods in their climate change campaigns formed the sampling frame. Purposive sampling was used to select two CSOs from based on their availability and the various informal methods they use for their climate change activities at the community level. The study also involved random selection of three beneficiaries of informal initiatives being promoted by focused CSOs in the study. Key informants who work with environmentally related CSOs at the national and local levels were interviewed. They included officials from the Environmental Protection Agency (EPA), Ministry of Environment Science Technology and Innovation (MESTI) and Ministry of Food and Agriculture (MoFA).
3.3 Data Collection

The study made use of both primary and secondary data. Secondary data were sourced from reviews, reports and publications on climate change and informal learning. Primary data was collected using interview guides, and the interview questions were developed and reviewed before they were finalised. After approval for data collection emails and calls were made to CSOs and other officials working at the ministries to confirm their availability for the interviews. Dates for interviews were scheduled with the identified respondents. CSOs, an officer from MoFA and some community members who have benefitted from CSOs informal climate change campaigns were interviewed in their offices and project sites in Tema and Ashaiman respectively whereas officers from EPA and MESTI were interviewed via zoom. The interview guide focused on questions relating to the impact of climate change, informal climate change initiatives being promoted by CSOs and how they are contributing to raising awareness of climate change, adaptation and mitigation among others. Table 1 below highlights the purpose for the selection of each respondent. In all, 13 respondents took part in the study. The breakdown is highlighted below.

Table 1: Characteristics and Purpose of selecting Respondents.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Organisations</th>
<th>Purpose</th>
<th>Number Interviewed (Total=13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSOs</td>
<td>350 G-ROC, Africa Foundation for Climate Change and Sustainable Development (AFCCSD)</td>
<td>To understand the role of CSOs in informal climate change learning</td>
<td>2</td>
</tr>
<tr>
<td>Government Institutions</td>
<td>EPA, MESTI, MoFA</td>
<td>To understand the role of CSOs in informal climate change learning</td>
<td>4</td>
</tr>
<tr>
<td>Beneficiaries/community members</td>
<td>Beneficiaries of informal learning</td>
<td>To understand the impact of CSOs in life learning on climate change</td>
<td>7</td>
</tr>
</tbody>
</table>

3.4 Data Analysis

The interviews were audio-taped and transcribed verbatim. Transcribed data were cleaned and initial coding was done. To ensure validity and reliability, data was compared with secondary sources of data and verified from the different types of people interviewed who brought in multiple perspectives and validation of data. Line by line coding was also done afterwards to cross check initial codes and new codes were assigned. Identified codes were then condensed and categorised to form themes. Selected themes were analysed and narratives were developed. The key themes that emerged from the analysis included perception on climate change, informal learning platforms used by CSOs, impact of CSOs informal learning on beneficiaries’ knowledge on climate change, adaptation and mitigation among others.
Key Findings
This section presents the findings from the study in line with the objectives it set out to achieve. The first section provides information on the background characteristics of study respondents. This is followed by information on perception on climate change, informal climate change learning platforms used by CSOs, how these platforms have contributed to respondents’ knowledge on climate change and the challenges CSOs face using informal climate change learning methods.

4.1 Characteristics of Respondents

Table 2 presents brief characteristics of CSOs involved in the study. The two CSOs used for the study were 350 G-ROC and African Foundation for Climate Change and Sustainable Development. They are registered NGOs working on issues relating to climate change, advocacy, community engagements among others in Ghana. The study assessed their recent informal learning campaigns in basic schools and among farmers in Tema and Ashaiman respectively. 350 G-ROC has been in existence for 9 years. The Organisation’s main focus is promoting renewable energy sources for vulnerable communities and schools. African Foundation for Climate Change and Sustainable Development is also focused on advocacy and climate change awareness among farmers. The NGO has been in operation for about 4 years and their aim is to contribute to food security and promote climate smart agriculture.

Table 2: Characteristics of Respondents

<table>
<thead>
<tr>
<th>Name of CSO</th>
<th>Level of Operation</th>
<th>Name of Initiative</th>
<th>Total Number of beneficiaries</th>
<th>Interviewed beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>350 Ghana Reducing our Carbon (350 G-ROC)</td>
<td>National</td>
<td>Activism in basic schools</td>
<td>About 150 students</td>
<td>3 students 1 teacher</td>
</tr>
<tr>
<td>African Foundation for Climate Change and Sustainable Development (AFCCSD)</td>
<td>District</td>
<td>Climate change advocacy programme for farmers</td>
<td>100 farmers</td>
<td>3 farmers</td>
</tr>
</tbody>
</table>

4.2 Perspective on Climate Change

The study sought to find out respondents’ perspective on climate change. There were varied responses from participants as the concept of climate change is broad. Responses included mainly change in elements of weather and climate including temperature over a long period of time. From the study, climate change is as a result of human activities, increase of carbon dioxide in the atmosphere and a reality leading to several impacts such as floods.
“my perspective on climate change is that climate change is real. I think it’s just time for us as a country to take climate change seriously because the impact of climate change is real…” (MoFA Officer, Key Informant Interview)

“….the gradual change in our weather patterns. It did not happen overnight but over a long period of time.” (Teacher, Community 7 Basic School)

Some other respondents perceived climate change to be a reality not just a science, to them climate change is closer to us. Respondents highlighted sectors of the economy that are mostly affected by climate change including the agriculture and energy sector. From the study, climate change is a threat to food security especially since the agriculture sector relies on rainfall and access to electricity especially relying on hydroelectric power in an unpredictable rainfall setting. To some respondents’ the reality of climate change requires urgent action to help most vulnerable people adapt and cope with the associated impacts.

“…..it has brought a lot of disruptions in our climate system and we all know that climate change is the average weather condition of a place over a long period”…. (CSO Director, AFCCSD)

“….we normally talk about climate change linking it to the science behind it and for me I see it as a practical and everyday thing”. (EPA Officer, Key Informant’ interview)

“….we are looking at reducing carbon, we are trying to find viable options for fossil fuel” (Volunteer, 350 G-ROC)

“….when the NGO came, we realise that we are seeing the work of climate change, because it has affected most of our crops at some certain time.” (Interviewed Farmer)

4.3 Impacts of Climate Change

Respondents identified the negative impacts climate change has on their communities including reduction in crop yield, drought, floods and coastal erosion. They identified sectors of the economy that have been hit hard by climate change including agriculture, energy and the construction sector. The unpredictability of rainfall patterns were examples of the impact of climate change identified by respondents. From the study, unpredictable rainfall has affected crop production especially farmers who cannot anticipate when the rains will start. Respondents’ comparing the major and minor rainy seasons indicated that the minor raining seasons have been receiving more rainfall compared to the major one in (that is, June and July) which was not like the case sometime back. The impact of unpredictable rainfall on the agriculture and energy sector were clearly highlighted by officers from MoFA and MESTI.

“…seasons in Ghana have changed. When it is supposed to rain it won’t rain if we are not expecting the rains then the rains are in. There are a lot of flooding here and there. When I was young I didn’t hear flooding but now the child born today will tell you there is flooding” (Teacher, Community 7 Basic School)
“September is giving us quite an appreciable amount of rain. We will say its minor season we should expect some rains but June and July they did not get much rain. The reason why even the prices of okro have escalated this year is because if we had rains in June or July at least we would have gotten enough with some from Ada” (MoFA Extension Officer, Key Informants’ Interview).

Within the energy sector, climate change impact on the availability of water to generate electricity with specific reference to the Akosombo dam was highlighted in the study. In addition to this, infrastructure needed to power electricity which could be damaged due to flood and extreme weather events was also identified.

“...before the introduction of thermal plants, we highly depended on the Akosombo dam which depended on the availability of water to be able to operate well. With climate change, water to provide electricity dropped in the Akosombo dam” (MESTI Officer, Key Informants’ Interview).

Other impacts of climate change identified included flooding and sea level rise. Issues of flooding in some parts of the country were identified as one of the impacts of climate change. Recent reports indicate that Ghana is vulnerable to increasing aridity, droughts and extreme rainfall events and flooding and faces significant challenges from a changing climate (Republic of Ghana, 2015). A report by World Bank, 2021 reveal that Ghana experienced seven major floods between 1991 and 2011 which affected hundreds of thousands of people and destroyed many of their livelihoods.

From the study, some respondents attributed recent flood events at areas that were hither to not experiencing floods such as Tema as a result of climate change. From the study, sea level rise affects households and infrastructure along the coast.

“.... there is a place in Tema called New town where the rise in sea level is invading homes and portions of the lands leading to destruction of infrastructure there. But unfortunately, the people on the shores dump a lot of waste materials including plastics, and fabrics all of which pollute the environment (CSO Director, 350 G-ROC).

From the study, the human element in climate change cannot be overstated. CSOs interviewed identified the need to bring people who contributed to the challenge on board as the solution. The preceding section discusses some of informal educational initiatives and projects CSOs are using to create awareness on climate change.
4.4 Informal Climate Change Learning Platforms Used by CSOs

One of the objectives of the study is to highlight informal climate change learning platforms CSOs are using to build the capacity of communities on climate change. For basic school children 350 G-ROC is using the project “artivism” which is a word they coined out of two words art and activism. This project has to do with the use to art to create awareness about climate change among basic school children. Some of the activities embarked on included face painting, weaving of waste materials into baskets, art and drawing as well as practical education on climate change using music and dance. Through these methods, 350 G-ROC is able to capture the students who are happy to do outdoor dancing and learning about climate change. 350 G-ROC uses informal methods because of the people they interact with.

The findings show that initial community engagements and assessments help them to decipher the needs of community members and how best they can reach them. They usually interact with people at the grass root level through communicating in local dialects having the communities’ characteristics such as educational level, language, income, rural or urban in mind. This informs the type of informal learning method they would use in their community engagement.

Africa Foundation for Climate Change and Sustainable Development (AFFCCSD) usually makes use of participatory sessions as part of their advocacy campaigns. For their climate change education and advocacy
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campaign held earlier this year, practical sessions were held with farmers to teach them how to practically prepare organic compost. Also, during their advocacy sessions they make use of videos on flooding and engage with institutions such as MoFA, community leaders, chiefs and development partners to tell the story of climate change. The enthusiasm and turn up for the two-day event were more than expected and some interviewed farmers attributed their knowledge on climate change to the advocacy campaign held by AFCCSD. The use of participatory methods and sessions were informed by the target group that is, farmers who tend to have low educational attainment. In this regard, the use of participatory and practical methods was ideal regardless of their level of education and exposure. Studies by Mwanga (n.d.) emphasises the relevance of ownership of interventions through participation and inclusion in building resilient societies.

Aside from these campaigns through which most respondents had benefitted from, the study also assessed respondents’ knowledge on other informal platforms where climate change learning takes place. The major responses that emerged from the study were the media, both social media and traditional media as well as community engagements using innovative approaches. The study’s responses revealed a current trend of using videos and other infographics to convey the message of climate change on social media, which provides an opportunity to reach more people.

"I learned they now use social media platforms. I understand they are also finding creative ways to realise issues and educate people on climate change to make it available to as many people as possible" (MESTI Officer, Key Informants’ Interview).

"CSOs use social media to talk about climate change" (Student, Community 7 Basic School)

Also, some respondents identified the use of media outlets such as radio stations as informal climate change learning platforms. The use of radio stations helps to reach a wide range of people in instances where discussions are carried out in the local dialects. Results from the study revealed that discussions about climate change and environmental management dominate the airwaves during national programmes such as the Green Ghana Day, an initiative led by the Ministry of Lands and Natural Resources to restore the nations’ vegetation. This event is held annually in June. From the study, educational campaigns on climate change and relevance of planting trees are usually aired on media platforms to climax and commemorate activities to mark the Green Ghana Day.

"...when it was time for the Green Ghana day which leads to planting of trees almost everywhere on the radio you would hear people talking about the need for tree planting and how it will contribute to climate change emission reductions” (MESTI Officer, Key Informants’ Interview).

For community engagements, the study identified the use of diverse methods including outdoor events, exhibitions, fun fairs, house to house engagements, practical and hands on sessions, cultural displays among others. These activities are perceived to be fun and different from the traditional classroom environment as indicated from responses below:

"...outdoor events which are different from other activities, we had face painting and a science presentation all in a flexible environment for the child to learn” (350 G-ROC Volunteer).

"...I was just watching a video from some of these CSOs and they were practicalising climate change particularly the impacts of climate change through their culture and dancing. (EPA Officer, Key Informants’ Interview).

These findings affirm the existence of diverse platforms through which informal climate change learning takes place. It also reveals the role of other stakeholders such as the government, state agencies, and radio stations in promoting climate change awareness.
4.5 Contribution of CSOs to Informal Climate Change Learning

The study assessed the impact of CSOs to informal climate learning projects on beneficiaries’ knowledge of climate change, climate change adaptation and mitigation, ability to identify climate risks and take initiative towards climate change.

4.5.1 Knowledge on Climate Change

Responses from study participants reveal that CSOs’ informal climate change activities help beneficiaries to know more about climate change. Particularly, the causes, impacts and how to address climate change. Responses from key informants revealed that some local community people especially farmers have identified changes in weather and climatic patterns over a period of time and CSOs help them to understand the causes of climatic change and how to address them.

“...initially we did not know about climate change but now, we are aware of climate change and how it affects our production...” (Interviewed Farmer).

Responses from beneficiaries of the “artivism” project revealed increased knowledge on the causes of climate change particularly over reliance on fossil fuels as well as its associated effects on the country. Also, responses from the study reveal that respondents were enlightened on the relevance of waste materials for making useful products such as baskets from nylon, thread and broomsticks.

“.....they teach us how to make things out of waste materials for example, nylon thread and broomsticks to make market baskets and rubber to make rubber stuff...” (Student, Community 7 Basic School).

Experts from MoFA also identified the increased knowledge farmers receive from CSOs especially the informal and practical sessions. Research findings reveal that CSOs activities have reinforced and added...
up to the knowledge communities have received from agencies in charge of climate change such as MoFA, EPA among others.

...“they play a role in the sense that our office cannot do this all by ourselves, CSOs continue to support us to mold and remold farmers because it is also good that we bring them on board as new faces” (MoFA Extension Officer, Key Informant Interview).

CSOs interviewed admitted and confirmed responses from experts and beneficiaries. Both 350 G-ROC and Africa Foundation for Climate Change collaborate with experts from the Environmental Protection Agency (EPA), Ministry of Food and Agriculture among others to increase credibility and ensure that the right information is provided to communities.

......“at our events, we bring in stakeholders and key players like the EPA in addition to persons from our organisation to create a balance in terms of the knowledge we deliver” (Director, 350 G-ROC).

For the “artivism” project, volunteers from University of Energy and Natural Resources (UNER) who study about renewable energy were on board to engage students about energy and climate change. This suggests that CSOs plan their activities considering their target and also collaborate to some extent with state institutions in the communities for their informal climate change activities.

4.5.2 Climate Change Adaptation and Mitigation

Responses from the study reveal that CSOs help local communities to prepare for the impacts of climate change because they educate them on the causes of climate change and how to prevent the impacts. CSOs interactions with farmers help to correct some misconceptions they have. For example, the study revealed farmers overreliance on inorganic fertilizers and chemicals because they perceive that they can produce more crops using these fertilizers. Through the advocacy campaign, farmers learnt about the harmful effect of inorganic fertilizers to their crops and to the environment.

“….Yes, for instance the NGO talked about chemical fertilizers. They told us to limit the usage of inorganic fertilizer on our farms we should farm using more organic fertilizers…. (Interviewed farmer).

Through AFCCSD’s advocacy campaign farmers were introduced to alternative forms of farming using organic compost. They learnt how to practically prepare organic compost using local materials such as rice straw, leaves among other materials which are good for the environment and easily accessible to farmers. From the expert from MOFA, some of the major things farmers have learnt from CSOs are the relevance of maintaining trees on their farms and engaging in tree planting activities. Nonetheless, findings from the study reveal difficulty for some school children to really understand the concept of adaptation and mitigation but incidents such as flooding may remind them of the practicality of the issues.

“….I wouldn’t say all but some might because there are some intelligent ones you can’t underestimate” (Teacher, Community 7 Basic School).

4.5.3 Eco Friendliness and Ability to Identify Climate Risks

The study also assessed project beneficiaries’ ability to take initiatives and putting what they have learnt from CSOs into practice. Generally, study findings reveal that community beneficiaries usually put what they learnt from CSOs into practice and some even go to the extent of educating others.

......“our work at that time was to engage some communities on issues on climate change, erosion, flooding amongst others. We took them through measures to undertake to prevent and control floods within their communities and we left them after six or seven months and when we visited their community again they were implementing what we taught them.” (MESTI Officer, Key Informant’ Interview).

Nonetheless, some key informants’ responses indicated otherwise. From the study, CSOs activities in communities are not enough to motivate local
people to take initiative. It was discovered that CSOs need to engage communities constantly as people tend to forget or do not pay a lot of attention on first interactions unless after two or three engagements. Similarly, responses indicate some gaps in the understanding of climate change among interviewed students, especially the ability to identify climate risks and take climate action. It was discovered that because of less interactions with CSOs, community members and beneficiaries of informal climate change learning projects tend to forget about what they have learnt.

The study revealed that constant engagements and education from CSOs is relevant to keep the message of climate change in the minds of people. Responses from key informants highlighted the need for CSOs to be innovative in their approach to constantly engage the communities through less costly methods.

"......I will tell them to do more. It shouldn’t be a one-off thing. You understand we are humans and as we are as people we tend to forget, they give them information it lives with them for a moment then it dissipates” (MoFA Officer, Key Informants’ Interview).

"...CSOs should be innovative and have a routine. They should go on the ground and form small clubs within their societies. Climate change clubs or societies so that they do for example activities such as keep fits where they wear their T-shirts people see them and it reminds them of the risks associated with climate change”... (MoFA Officer, Key Informants’ Interview).

Nonetheless, from the study farmers have learnt to cope and adapt to climate change and unpredictable rainfall patterns by using early maturing crops.

"...farmers always want to go for the early maturing crops because they don’t know when the rains will come so they prefer to harvest quickly before the rain comes (MoFA Officer). From the study, farmers are able to anticipate
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Key informant interviews reveal that farmers engage in adaptation and mitigation practices such as mulching among others because of the activities of Extension officers from the Ministry of Food and Agriculture (MoFA).

"...my office has done a lot of training from time to time so they know they understand perfectly how to do mulching" (MoFA Extension Officer, Key Informants’ Interview)

"...when it comes to farmers sometimes they know more than us. For example, some of the farmers we are dealing with as a municipality they really know because they have been farming for 50 years so when it comes to climate change adaptation they really know" (MoFA Officer, Key Informants’ Interview)

Other responses from the study reveal a seemingly increased consciousness and awareness on the environment such as clearing gutters to reduce the incidence of floods in rainy season. From the study, some individuals have taken the initiative to collaborate and bring together some members of their community to clean choked gutters to increase flow of rain water in gutters.

"...these days when our gutters are choked they would organise themselves so that they can distill their gutters in anticipation that any rain will definitely lead to flooding" (MoFA Extension Officer, Key Informant Interview).

Interviewed CSOs indicated that they encourage community members and local people to be part of the solution to climate change in their communities by engaging in inclusive community engagements.

"...we engage them and help them to be part of the solution instead of bringing recommendations to them, then they are able to identify climate risks like flooding and how proper disposal of waste and refuse segregation can reduce the incidence of floods" ..... (Director, 350 G-ROC).

The study also highlighted extant knowledge farmers have acquired from years of farming and indigenous knowledge. This is consistent with literature on the importance of indigenous knowledge in climate change adaptation in Africa (Filho et al., 2022).
4.5.4 Effectiveness of Informal Learning Methods Used by CSOs

Study respondents shared their perception on how effective CSOs informal climate change activities have been. On the whole, the majority of respondents indicated that informal methods used by CSOs for climate change educational campaigns have been effective. Some reasons include the mode of informal learning which is open and free as compared to learning in the classroom, the practicality of informal learning, use of local language among others.

“…..the children are tired of the usual classroom learning. Yes, they know from science this is erosion but they want to see it.... (Volunteer, 350 G-ROC).

“….we are not showing them a video of somebody preparing organic fertilizer or reading practical steps of organic fertilizer preparation, but it is an activity we are all doing together so that they can remember when they go back...” (Director, AFCCSD).

Nonetheless, key informants indicated that there is still room for improvement and CSOs have to follow up on previously held activities and programmes in local communities. Another issue raised on the effectiveness of informal learning methods being dependent on the target audience as some people would prefer practical sessions especially farmers. Teaching them how to prepare organic fertilizer with local materials is very relevant owing to their economic status. The key informant from EPA revealed that the effectiveness of CSOs activities can be seen at the local level because some local people have appreciable information on climate change which they observe during field visits.

“...like how we did for the training we had with the farmers I think he demonstrated to them how compost is done... that is laudable that a farmer who doesn’t have money will be able to prepare compost himself using rice straw.” (MoFA Officer, Key Informants’ Interview).

“we have been to the field several times and when you talk about climate change they will tell you they have heard about it and that make your work easy for you because they have already some background knowledge of what you are talking about” (EPA Officer, Key Informants’ Interview).
These findings highlight the contribution of CSOs in providing knowledge and building climate literacy in communities as well as building up on communities’ existing knowledge on climate change from other stakeholders including state agencies and providing community members with techniques that would help them adapt to the impacts of climate change.

4.5.5 Barriers CSOs Face Using Informal Climate Change Methods

The study also assessed barriers CSOs face in their informal climate change activities and campaigns. The majority of respondents identified financial barriers as the key challenge CSOs face since they depend on external funds from donors. As a result of this, CSOs usually operate on limited funds and this affects the scope of their activities and the impact as well. Another issue with the funds is that local community members expect to receive some incentives in the form of transportation allowance, refreshments or financial support from CSOs and this puts a lot of financial strain on them. In addition to this, the study identified misuse and dishonesty in the way some CSOs handle funds they receive from donors.

"......number one barrier in our case, is finance. Formerly most of our ingredients used for preparing compost were free since they were household leftovers but because of economic hardship, they are now being sold to the farmers... (Director, AFCCSD).

"......we should be able to help community members build their own solar bulbs but because of the lack of funding to procure the equipment involved we are unable to engage them fully on the practical aspects as we would want (Director, 350 G-ROC).

"......"It borders on costs. When you organise some of these events some beneficiaries expect CSOs to give them transportation and I don't know how much CSOs have to cover these costs... they have to pay for food water and sometimes for resource persons (MoFA Officer, Key informant interview).

".....availability of money for CSOs to cover new projects as possible...” (MESTI Officer, Key Informants’ Interview)

".....some of the directors need to be sincere. With the experience that I have some CSO Directors when they go for funding they channel the money to do other things” (MoFA Officer, Key Informant Interview).

The study also revealed the inadequate capacity of some CSOs to lead climate change educational campaigns. Findings indicate that some unscrupulous people set up environmental NGOs in the name of addressing climate change issues although they have limited knowledge on the subject matter. This is because people want to take advantage of the growing popularity of climate change issues to make money. They usually do this through setting up NGOs just to get funds from donors which usually leads to mismanagement and misuse of funds.
Another challenge identified was infrastructural barriers such as poor road transportation which affects mobility for some vulnerable communities. The study highlighted how some NGOs face transportation challenges in their educational campaigns and activities.

"....the road networks are not good. If you are travelling with good cars you can get stuck on the road. I saw evidence of one of these CSOs going to the field for such similar assignments and their car got stuck in the mud and it was very late in the evening." (EPA Officer, Key Informants’ Interview)

Also, some respondents identified difficulty to change people’s behaviour to adapt more eco-friendly habits as a barrier to CSOs in informal climate change learning activities. The study revealed that a lot of time is required for people to accept change and make efforts towards what they have learnt.

"....It is extremely difficult to let people change their behaviour." (MESTI Officer, Key Informants Interview)

Another barrier identified was the inability of students to understand what they are learning. Findings from the study reveal that school children are likely to enjoy only the fun aspect of the project without learning anything and some students may not enjoy the informal settings because of their personalities.

"....you know they are diverse people and their absorption of knowledge is also variable. Some people as they are jumping will find it boring because of their personalities, while others will enjoy it" (Teacher, Community 7 Basic School)

4.5.6 Solution to Barriers CSOs Face

Respondents made suggestions on how to address barriers highlighted above, including government providing support for CSOs, capacity building for CSOs, honesty in handling funds from donors, and regular sensitisation activities. Identified solutions to address financial barriers CSOs face include CSOs learning how to source for dedicated financial support from international organisations and donors, writing proposals for funding and working together with policy makers and experts. Another solution to address the financial barrier was that CSOs should be sincere and use funds they receive for their intended purposes.

".....their work is more effective at the local level and it brings out the best in indigenous people so if they are supported with dedicated funds to do such works it will help most of them in their fight against climate change and the reduction emissions" (EPA Officer, Key Informant Interview).

"...they should learn how to source for funding as there are thousands of philanthropists who are out there and are willing to support climate change projects. The most important thing is for them to identify where those funds are and whether they have what it takes and then write to get the funds. (MESTI Officer, Key Informant Interview).

"...CSO’s should be sincere. If they get money, they should use it for what it is intended for and cut down frivolous buying of cars and all that...” (MoFA Officer, Key Informant Interview).

Also, the relevance of CSOs building their capacity through learning free online courses on climate change to increase their knowledge in the area of climate change was identified.

"....for capacity building I think there are lots of free online courses when it comes to climate change they don’t need to pay any money to learn." (MESTI Officer, Key Informants Interview)
On the barrier of difficulty in behaviour, responses from the study reveal that constant engagement and sensitisation of communities will increase awareness and climate literacy among community members which will make it easier to influence the decisions they take on their environment. The study highlights the relevance of introducing more informal learning techniques such as using pictures, videos among others.

“……doing more sensitisation because it is difficult to change someone’s behavior but the more you do it you may be able to change them…. they shouldn’t only do verbal talking. Once a while, they can get pictorial evidence to show the people…” (MESTI Officer, Key Informants’ Interview).

Also, the study revealed that the formation of clubs will ensure constant interaction with school children to increase their interest on climate change issues. From the study, forming a club will help CSOs to provide more information continuously rather than having occasional programmes.

“….they will follow up with forming a club and if such a person wants to join the club the person can get other knowledge from there…. it is not a one-day thing. It will be continual so don’t expect that what we have done today is okay” (Teacher, Community 7 Basic School).
Conclusion and Recommendations
The findings from the study show that CSOs use several informal methods to raise awareness about climate change. From the study, respondents including farmers and school children have significant knowledge about the causes and how to address climate change through the activities of CSOs. From the study, farmers who took part in the farmers advocacy project by AFCCSD have gained the understanding that the variability or changes in weather events which they have observed over time is due to climate change. Key informants also consent that local communities have existing knowledge or idea about climate change because of the activities of CSOs. CSOs use several informal methods to increase awareness about climate change considering the needs of the communities and how best they can get them involved. They use methods such as fun fairs, practical organic fertilizer preparations, watching videos, cultural dances among others. Their key message has been to raise awareness about climate change especially its causes, impacts and how to adapt and mitigate as well as advocating for renewable energy sources and good agricultural practices. The assessed projects by 350 G-ROC and Africa Foundation for Climate Change and Sustainable Development received massive support and turn up from beneficiaries and community members.

It is evident that beneficiaries have increased knowledge on climate change through informal learning methods used by CSOs. From the study, community members and project beneficiaries have been empowered to teach others about the causes, impact and how to tackle climate change. Also, vulnerable groups such as farmers are able to anticipate and adapt to climate change through using early maturing crops to be able to harvest on time, preparing organic compost, engaging in mulching among others. Nonetheless, the study identified gaps in project beneficiaries’ knowledge on climate risks and their ability to take personal initiatives on climate change. This is as a result of occasional interactions with CSOs due to limited funds and other challenges CSOs face in their educational campaigns and projects. The major challenge identified was inadequate funds since most of these projects rely...
on funds from external donors which has become unpredictable in recent decades. Other challenges and barriers identified include inadequate capacity of CSO leaders, mismanagement of funds and school children being absorbed in the fun without learning anything. To varying degrees these challenges, affect informal learning initiatives of CSOs in a variety of ways. Some identified solutions include CSOs learning how to solicit for funds, writing more proposals and being sincere with the funds they receive.

Overall, while CSOs might be contributing a lot to raising awareness and empowering local communities to act on climate change has been less documented. This makes it difficult for CSOs to be recognised by the government and relevant stakeholders which hinders their ability to build capacity, access funds and be incorporated into government reports on climate change activities in the country.
5.1 Implications of Research Findings for Policy and Practice

In line with the study, the following recommendations are important for research, policy and practice.

1. CSOs should be creative in designing their projects. They should not engage in occasional activities, but they should design programmes that will outlive the lifespan of their project for example, forming clubs, routine visits to farmers and communities.

2. CSOs should be innovative in soliciting for funds for their projects. They should diversify their financial resources and enhance their capacity for local resource mobilisation. CSOs should come out with innovative ways of raising more resources to support their operations such as social entrepreneurship as a means to financial freedom.

3. In an era of limited funds and resources, CSOs working together on similar projects and communities should collaborate to make use of limited resources. CSOs should form alliances with other organisations in the sector and the private sector to pool resources together to sustain their projects.

4. Also CSOs should attend workshops and conferences on alternative sources of funding organised by institutions such as the West Africa Civil Society Institute (WACSI), STAR Ghana among other institutions to learn about new techniques to fund their initiatives.

5. CSOs should be sincere in managing funds they receive from donors. CSOs should work on enhancing their image in the society through a commitment to accountability to their peers, state agencies and local people. They should account for the resources they receive to their stakeholders and community members to improve their image as trusted advocates.

6. CSOs should take advantage of online courses on climate change available on the United Nations Convention Framework on Climate Change (UNFCCC) website, Coursera among other online learning platforms to build their capacity on climate change. Knowledge on climate change is always advancing so CSOs have to continue learning to keep up with the growing body of knowledge.

7. CSOs should recognise local communities and rural areas as learning sites. They should learn from community members the various indigenous methods they are using to adapt to climate change. Although they go into communities with recommendations, they should be willing to learn from them as well.

8. The government should support CSOs financially through dedicating funds specifically for their activities, especially CSOs working in vulnerable communities. They can support CSOs in diverse ways, both in cash and in kind. For example, some state agencies can cover transportation costs of experts and officials from their organisation who will be invited by CSOs to speak at their programmes, provide snacks for such events among others. This will cut down the costs CSOs will incur organising programmes and projects.

9. State agencies working within the area of climate change such as the Environmental Protection Agency (EPA) should closely work with CSOs at the community level and also incorporate their activities as part of the country’s efforts towards climate change.

10. Researchers should conduct more studies into the activities of CSOs in the country. From the study, CSOs contribute to building climate change knowledge in local communities. There is the need to document these activities at the local level.
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